Exemplary Practices

1998-99 Recipients

Prime Minister's Awards for Teaching Excellence

Canada

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PRIME MINISTER • PREMIER MINISTRE

Every year, at a special ceremony in Ottawa, I have the pleasure of meeting some of Canada's most outstanding teachers, the recipients of the Prime Minister's Award for Teaching Excellence.

I admire the work that they and all teachers are doing for Canada's young people. Teaching is a demanding profession, requiring extraordinary patience, creativity, compassion, and skill. Today's teachers face greater challenges than ever before, and I am impressed with the innovative ways in which teachers are helping their students to learn in a rapidly changing environment.

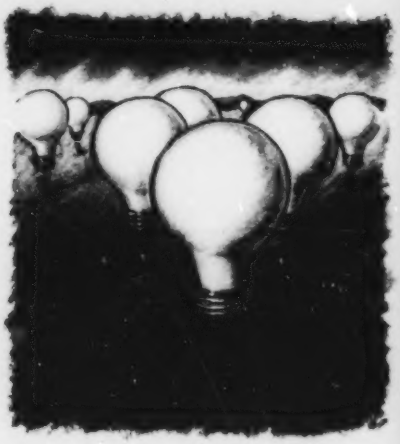
It is my pleasure, therefore, to share with you the thoughts, ideas, and practices of these special teachers. *Exemplary Practices* is a teacher's resource book, prepared by teachers for teachers. I hope that you will be able to apply their wisdom and experiences in your classrooms. It may well inspire you in your important work, and perhaps I will have the pleasure of presenting you with an Award next year.

Congratulations, once again, to all the 1998/1999 recipients of the Prime Minister's Award for Teaching Excellence, and thank you for your contributions to Canada's future.

Jean Chrétien

Ottawa
2000

What do a group of teachers



Teaching. That's exactly what happened when we, the 1998–99 Certificate of Excellence recipients, all met in Ottawa last May. Once we got past the formalities — Where are you from? What do you teach? — we quickly got down to the bigger issues.

Some came up over and over again. Working with *high-risk kids* was a hot topic given recent events. We talked about the agonizing heartbreak that comes with seeing students drop out of school. But there was good news too. Some of us, as you'll see, have had real success helping high-risk students turn things around.

Another top-of-mind concern was *technology*, and it too has its ups and downs. There is a lot more technology in the classroom today than ever before, but many of us think it is not being used as well as it could be. Keep reading, though, and you'll find out about some of the great ideas we have for using technology effectively in the classroom.

talk about when they get together?

For many of us, *classroom walls are for leaping over or knocking down*. We talked about programs that transcended and transformed school into something new — programs that integrate different subjects and bring the outside world into the classroom. We brandished photographs, videos and Web pages to show the great things students are doing in today's classrooms.

The ins and outs of *project-based learning* engaged us too. We talked about enlisting students in the pursuit of a tangible goal so they can not only develop skills but also see what they can do with those skills — both inside and beyond the curriculum.

When it was time to go home we were still talking **— about the rewards of helping students succeed and the challenges we face with each school year.**

The book you are holding contains some of the highlights of our discussions. We hope it inspires you to develop exciting, meaningful and educational lessons for your students, to share your ideas with others and join in the nation-wide conversation about teaching!

Prime Minister's Awards for Teaching Excellence

Corporate Partners

The Prime Minister's Awards for Teaching Excellence is proud to have as partners four corporations that understand the vital role teachers play in preparing students for the challenges of our changing society and knowledge-based economy. These corporations have all made a strong commitment to education, as outlined below. Their continued support of the Prime Minister's Awards has enabled the program to honour hundreds of outstanding teachers, share their innovative teaching practices and, as a result, benefit students across the country by providing models of excellence.

Bell Canada supports many programs that focus on education and youth, including Canada's SchoolNet, Expo Science, the Chemistry and Physics Olympiad, the Canada-Wide Science Fair and the Youth Science Foundation. Bell Canada also supports the National History Awards for teachers, and has helped produce on-line educational resources and provided free copies of a CD-ROM about Alexander Graham Bell to schools in Ontario and Quebec. In addition, Bell Canada invests more than $3 million per year in research at universities in Ontario and Quebec, thus dedicating a total of more than $5.1 million to the field of education annually.

GE attaches high priority to education. Through its charitable foundation, the *GE Fund*, the company supports many worthwhile educational initiatives, including the granting of more than 100 Student and Teacher Achievement and Recognition (STAR) and 60 Award for Career Education (ACE) scholarships to U.S. and Canadian students. Also, the GE Fund now supports a special scholarship program for Canadian Aboriginal students. With more than 38 000 members, GE's employee volunteer organization, Elfun, helps students with an education outreach program that includes workshops, contests, mentorships and assistance in areas such as career awareness and college selection. GE Canada has also recruited more than 100 interns into many of its businesses Canada-wide through Career Edge, a national youth internship program.

Kraft Canada is committed to supporting national programs that recognize the importance of learning and that foster better education for Canadians. Along with its sponsorship of school breakfast programmes, Kraft Canada is a major sponsor of *Protect our Planet*, a national magazine for grade school students, and Ben Wicks' series of *Born to Read* books promoting literacy. Kraft is also a leader in promoting an understanding of the link between nutrition and learning.

The Royal Bank Financial Group believes in helping students make a smooth transition from the classroom to the workforce. The Royal Bank's major investments in this regard include Career Edge, designed to give recent graduates practical work experience; SHAD International, which introduces students to entrepreneurship, information technology, science and engineering; and the Conference Board of Canada's Royal Bank National Partners in Education Awards. The Group also supports the Queen's University National Teaching Fellowships in Education and has awarded more than $48 million to educational organizations over the past 20 years.

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How do you help high-risk

There isn't a simple definition of a high-risk student. Each is unique with his or her own set of strengths and problems.

In many cases, high-risk students have had to raise themselves. Their parents have suffered so many problems in their own lives that they don't know how to parent and don't have the energy to try. Often, too, one parent isn't in the picture and the child has to cope with a succession of temporary boyfriends or girlfriends who may not even want the child there.

kids?

In other cases, high-risk kids come from intact families but have undiagnosed learning disabilities. They're frustrated by their inability to do the work, and everyone around them is frustrated by what they see as difficult kids who won't apply themselves. Eventually those kids give up too, and turn to drugs or defiance as an escape.

No teacher likes to stand by as a struggling student falls further and further behind at school. In fact, many have made it an important part of their work to try to turn these students around and help them succeed. On the pages that follow, you will meet four of these special educators.

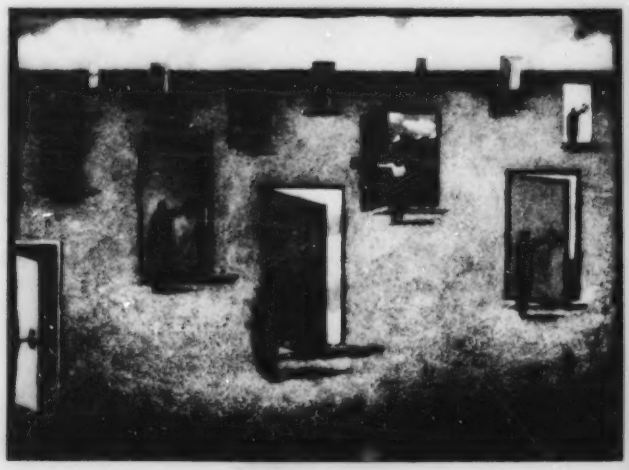
How can high-risk students overcome the challenges they face and concentrate on learning? **Judy Chapman** talks about building trust by creating the right sort of learning environment and building a positive relationship with students.

How does a high school program meet the varied needs of high-risk students? **Joan Beeson** and **Cindy Meagher** tell us about an innovative approach to curriculum that gives struggling students the extra help they need to succeed.

How can a summer program become an avenue to success? **Eileen Kiriazidis** describes a math program that gets much support from teachers, parents and students as well as positive results.

"Since at-risk kids are somewhat damaged and distrustful of school and teachers, you have to gain their trust before you can begin to teach them the curriculum. I do not have all the answers, but I have developed a program that helps at-risk students succeed academically. This in turn helps make them happier, more stable young people."

The Power of Learning



Judy Chapman
Abbotsford Senior Secondary School
Abbotsford, British Columbia

Judy Chapman has been teaching since 1971, after receiving her BEd. Since then, while teaching full time, she has earned a fifth-year Post Baccalaureate Diploma and an MEd. She is well known in the education community in Abbotsford as a leader among educators at all levels, offering workshops inside and outside the school district.

"She has saved the lives of these young people."

Principal

When my principal asked me to create a program for the school's high-risk students — academically capable students unlikely to earn their high school diploma — I was initially interested but also reluctant to leave a job I loved teaching Grade 6 students. Eventually, intrigued by the challenge and the obvious need, I agreed to the idea.

The Integrated Studies Program (ISP) I developed **provides the structure and individual attention of an elementary classroom in a high school setting**, with high school courses and academic expectations. There is one main classroom, and one group of students stays together for two years (grades 11 and 12).

Twelve reluctant Grade 11 students were in the program in the Fall of 1997. In the second year, the program expanded to two teachers and two classrooms with a total of 40 students (17 of whom were in my class). Some students also take electives in the regular system. **One student took a full complement of French courses and scored the highest marks in the school.**

The change in these kids is truly amazing. For many, the relationships they build are the first positive connections in their lives. They have their individual social, emotional and academic needs met in a safe, risk-free environment and build the "social capital" of respectful behaviour, dress and speech they need to survive in the adult world.

After two years, every one of my Grade 12 students walked across the stage at graduation to receive a full academic diploma after passing all provincial exams. They have registered in colleges and trade schools, earned more than $10 000 in scholarships and bursaries from the community, and have full- and part-time jobs lined up. For seven of these graduates, graduation day was especially significant; **they were the first in their family ever to graduate from high school.**

Strategies for Success

The program works through three complementary strategies. I establish **trust**, restore the **desire to learn** based on that trust and insist on **academic rigour**. I have developed a number of ways to carry out these three strategies each day.

- **The students need to know you care about their well being.** Every morning I call all the students who haven't shown up. I remind them that they must maintain a 90-percent attendance rate to stay in the program. I also have the district lunch program deliver food each morning, which I set out at the side of the room like a smorgasbord. The improvement in nutrition helps a lot; the students feel better and are better able to focus on school.

- **They need to know that learning is possible.** Up until this time, school and learning have been boring and frustrating for these students because the lessons seem unrelated to their lives. Using the model of an elementary classroom and integrating a number of subjects into one thematic lesson works well to make the content more relevant and interesting. For example, in a unit on conflict, we looked at conflict in the students' lives and in their community, practised conflict resolution, and examined conflict in World War II and in literature.

- **They need to know that you value their work.** I mark every piece of written work within 24 hours and give students feedback.

- **They need to know when they've succeeded.** ISP students receive copies of all of the required learning outcomes for the year. They see the connection between curricular areas and realize when they achieve the outcomes. They are directly involved in their own learning. I encourage students to follow the more advanced-level course material rather than the basic courses. I want students to leave ISP prepared for a regular high school setting or post-secondary education.

"The educational model behind our secondary outreach program for students unable to attend regular high school — assisted, independent, student-paced study — has proven to be effective in helping high-risk students succeed in high school."

The Bridge to Success

Joan Beeson and **Cindy Meagher**
Bridge Network
Grande Prairie, Alberta

Though Joan Beeson and Cindy Meagher didn't plan their education careers in this direction, their life and teaching experiences led them, almost inevitably, to form the Bridge Network. The two met when Cindy, became principal of what would become the Bridge Network and hired Joan to fill her vacated teaching position. They found they had complementary attitudes and teaching practices and immediately developed a new mandate and direction for the school.

"We know that students can succeed if certain conditions exist simultaneously: belief in one's self, continued support and guidance, and a will to work diligently. We want this sort of success to be a possibility for all students, even those burdened by previous school failure, emotional stress and turmoil, illness, employment, and pregnancy or parenting. But a traditional high school setting creates barriers — an imposed schedule and workload, among others — that some of these students cannot get past."

Our aim is to encourage our students to head back to regular classrooms, get their high school diploma and develop skills that will enable them to join the workforce or move on to higher education.

Bridge Network students take courses at their own speed. Typically, a student completes four courses in a year. Being allowed to set their own pace teaches the students to become responsible for themselves. Once they find ways to succeed, they can turn around and use these skills to complete their high school education.

For example, one student struggled with her language and writing skills. Our flexibility allowed her the time she needed (more than a year) to complete her English course. However, during the same period, she was able to complete several other courses. **She is the first in a large family to graduate from high school.**

Her success and perseverance aren't unique. For example, other students initially refuse to touch math courses, saying that they are afraid of them or that the subject is too difficult. But after some success in other courses, they are willing to take the risk to try what they formerly considered a "too difficult course." The vast majority of students receive final marks of about 60 percent with more than 20 receiving marks of about 90 percent in 1997–98.

It is our dream that every student achieves educational success and that schools and programs are provided to meet the diverse needs of young people today. We know that the success we've seen our students achieve is a universal opportunity for every student.

A Bridge Network in Your Community

- The school has approximately 120 to 190 active students, but serves more than 400 each year. They come from all areas of the city, referred by guidance counsellors, administrators and teachers; some are brought in by their parents or come in on their own. In areas with populations too small to support such a school, the same approach could be adapted and applied to a traditional high school setting, similar to existing remedial and independent study programs.
- Our students choose what they will take from among 70 high-school-level courses. If a student is not successful with his or her first choice, we allow a change of courses. In this way, the student achieves significant success early in the Bridge Network experience, and that gives us the impetus to encourage students to tackle the more challenging courses.
- At any given time, there is a variety of students at the school working on a wide array of courses. This is similar in many ways to a library. We are the "librarians." When students need something, they ask the "librarian" for assistance. Students are free to wander about, using materials at will. They are free to use the computers, to ask for one-on-one instruction, or to ask for advice regarding personal problems or anything else.
- A team approach is central to the success of the Bridge Network. We are lucky to have the support of our school board, our central office administration and staff, and our community partners. The school would not function without our two excellent co-workers: Kevin McNeil, our science and career and life management teacher, and Sharon Andreotti, our administrative assistant and teacher aide. The entire staff agrees on the goals and philosophy of the school, working diligently as a well-tuned machine "lunging from one crisis to the next," as Sharon would say.

Learning to Care

"I get great satisfaction from convincing children that the teachers, administration, school board and their parents really care that they learn. Once they know that others care, they begin to care about learning themselves."

"When I was in school, I tutored friends and younger students in math. I took great satisfaction in seeing them learn, seeing the "light" go on when they suddenly understood. I never worried about what I would do when I grew up; I just wanted to go on seeing that light."

Eileen Kiriazidis
Howard S. Billings Regional High School
Châteauguay, Québec

You might assume that the remedial math teacher would be one of the least popular people in a school. Not so at Howard S. Billings Regional High School. Eileen Kiriazidis, affectionately known as "Mrs. K.," is loved and respected by students and staff alike for her abilities as an educator, her service to the school, and her devotion and commitment to her profession.

Caring to Learn

Working Together to Help

"Hello, Mrs. LaRue. My name is Eileen Kiriazidis. I am the mathematics resource teacher at Howard S. Billings Regional High School. I am calling because Jason's* math teacher is concerned about Jason's progress in math."

This is how I begin the **40 or so phone calls** I make at the beginning of each term.

Most of the students referred to the mathematics resource program are under emotional stress. A few have mild learning disabilities. Many are at least one year behind in basic math and English skills.

This initial phone call explains the student's problems in math and **recruits parents into the process of convincing their child that we care.** Jason, for example, has done poorly on class tests and standardized tests, which indicates he has weak calculation skills.

The remedial program for each of our four terms **complements the regular program of studies.** It is a full resource program with instructional time and scheduled visits for the students. Because each student has an individual set of difficulties in math, it is necessary to develop **individual lesson plans** for each of the 35 to 40 students in the program and to personally mark their work. This is time consuming, but it is essential to convincing the students that we care about their learning.

I am delighted to report that Jason achieved a term-three mark that will pass him in math this year. He has stayed in resource for two terms, at his own request. He has learned that people care and will give time and energy to help him.

---

* Jason is a composite of several students.

◀ This system of identifying students in need and removing them from their optional classes (which change each term) requires co-operation from every staff member. Other teachers must agree to slightly larger classes to free a teacher to teach resource, and participate by recommending children in need to the program.

◀ Students receive about two written assignments a week. It is easy for parents to recognize them because they come in a package with a cover page that the parent must sign. That way, parents can monitor and encourage their child's progress.

◀ How can you convince resource students that they can learn, that they can do math and that people care about their progress? There's nothing magical; you just don't let them think otherwise. First, welcome them. Then cajole, distribute, obligate, threaten, beg and bribe.

Welcome them to a bright classroom full of posters, plants and flowers, clean desks and floors. This shows that the administration and teacher really care about the mathematics resource program and the students in it.

Cajole them to show they care as much as their parents and teachers care.

Distribute a pink paper with the times tables, a first assignment and a behaviour contract. Tell them their parents are expecting these papers at home.

Obligate them by requiring them to sign a contract, which says that they will demonstrate a caring attitude at resource and in regular classes.

Threaten students with being sent back to the regular program if they break their contract or if they don't show that they are trying to improve their math skills.

Beg them to give it a chance, to try studying the times tables and doing the written exercises. Ask for a month to prove they can learn math.

Bribe them by letting it be known that rewards (such as lollipops) are available for correct answers and responsible, caring work.

What does school have to

Teachers are more sympathetic to this question than they like to let show. They know the subjects they teach can be lively and interesting. But all too often the exciting disciplines they know and love just seem to lie flat on the page, and seem to hold little interest or relevance for today's students.

Book-based education also creates an unintentional bias in the system. Students with weaker reading skills never see the excitement and are denied a chance to develop a fully rounded sense of where their education can lead them and how it connects with the fascinating world they see around them every day.

Most, if not all, teachers are on the look out for ways to bring the curriculum to life. In this section, three teachers discuss how they gained students' interest and helped them learn more effectively by bringing real world activities into the classroom.

How can I create a dynamic framework in which to learn and apply the regular business courses of accounting, marketing, entrepreneurial studies and business management? Enviroworks, "a school within a business" created by , helps divert more than 60 tonnes of construction and demolition waste from local landfill sites and offers homeowners and renovators an economical source of materials.

How can I teach students about Canadian politics and the Canadian parliamentary system in an exciting and meaningful way? 's mock parliament is part of the Grade 11 social studies course. Students gain an excellent understanding of our parliamentary system by actually participating in it for a month.

How can I ensure that children with different learning styles and different abilities have an equal right to learning and knowledge? discusses how a moment of curiosity or interest offers an opportunity to teach, and how the inclusive teaching strategies of outdoor education could be brought into the classroom to both encourage and require student participation.

The Business of Learning

"After a year of teaching business studies, I was really bored. The kids were bored too. It wasn't that the curriculum wasn't interesting; it was that the environment was unsuitable. It didn't match what I was teaching. I was actually turning kids off business."

Michael Zanibbi
Queen Elizabeth Collegiate and Vocational Institute
Kingston, Ontario

Michael Zanibbi admits his educational background is not traditional for a teacher: he has a BA in English and history, an MA in English literature… and an MBA. When he graduated from business school, he turned down several private sector jobs to earn his BEd. This award-winning teacher says, "It is very important to have a varied and lengthy educational background. It is also important to be a lifelong learner."

"As a person who wants to run my own business someday, Mr. Zanibbi and the Enviroworks program have given me realistic experience I will be able to use."

Student

My educational philosophy can be summed up in three words: **learning by doing.** I knew the best way to learn about running a business was to actually run one. Opportunities for entrepreneurial ventures are often disguised as problems. While we were trying to find a business idea, Kingston city council increased tipping fees at the local landfill site. The city has a number of large institutions that dispose of large amounts of office furniture and building materials. This created an opportunity to collect and resell these materials.

Once we had the idea, it still took a year to move Enviroworks out of the classroom. In the first year the class created the business plan, which is updated every year. The students do market surveys and research, carry out a competition analysis, and look into leasing and purchasing equipment. They learn that the first step in running any business is ensuring the basic idea is viable.

Enviroworks is run by 15 to 17 students from around the city. We have a full-time manager who is a former student in the program. The program runs for two semesters in each school year. Typically, students are at Enviroworks all day and receive four credits in one semester for marketing, accounting, entrepreneurial studies, computers, management studies and construction technology (through our demolition service). In the other semester, the students return to school for their compulsory courses. **I follow the curriculum guidelines, with everything related to the operation of the business.**

Enviroworks keeps regular business hours. This requires a great time commitment from the students. In return, they get real job experience. I've seen a real turnaround in many of the students working at Enviroworks. **Many have gone from high-risk, low-attendance students to motivated, interested students with perfect attendance.** Many go straight from Enviroworks to paying jobs in the community.

This idea would work in almost any community, though a market analysis to assess the competition is important. Look for similar opportunities if a recycling business isn't feasible.

The business needs to be large enough to generate sufficient income to cover basic costs, such as rent, utilities and any salaries. Asking the school board to subsidize the business might make it harder to obtain backing from the many private and public sector sources of financial support for employment-creation programs such as this.*

There are a few factors critical to the success of a program such as Enviroworks.

- Find an entrepreneurial leader — someone who understands business, is familiar with the curriculum and is willing to put in the hours to run the business. **This is a school within a business, not the other way around.** The curriculum naturally follows from the business operations.
- Prepare a good market analysis and competition analysis. Some large urban centres that already have a used building material outlet may be able to support another. Many cities have none at all and are wide open for this kind of opportunity.
- Apply for any government or business partnership grants you can. The business needs about $55 000 to $60 000 a year to cover the costs of rent, truck and salary. **After three years, we are approaching the break-even point.**
- As with any business and on any job site, we take every safety precaution possible. Potential clients insist on it before hiring us. Parents do not sign release forms because most students in the program are 18 or older. The school board provides workers' compensation coverage as it does for other co-op programs.

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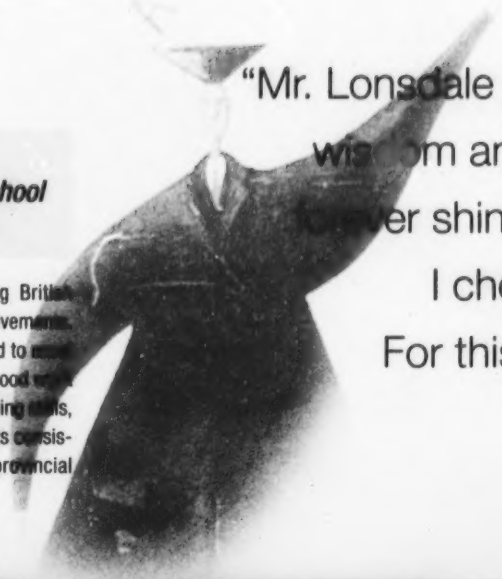
* I am currently working on a CD-ROM to summarize all the sources of supply, money and curriculum I have found. To find out more, visit **http://www.enviroworks.org** or contact me at school — (613) 531-0542.

"I consider myself fortunate to teach history and social studies. Far from being dead subjects, I see them as living and immediate topics. Historically significant events happen every day, so my teaching differs every year as a result."

Debates and Developing Skills

Richard Lonsdale
Pleasant Valley Secondary School
Armstrong, British Columbia

Richard Lonsdale is well known among British Columbia's educators for his teaching achievements. His courses develop students well qualified to succeed in post-secondary education by fostering good research and study habits, refining research and reading skills, and establishing weekly goals. His students consistently achieve the highest marks in the provincial History 12 exams.



"Mr. Lonsdale has shown me a path of wisdom and questioning which will forever shine a positive light on how I choose to live in this world. For this I am eternally grateful."

Former student

As much as I enjoy teaching history and social studies, **I see the subjects as a way to teach important learning skills.** Students will find that effective study and research skills, public speaking experience, and the ability to work under pressure and meet deadlines are more useful to them after high school and later in life than knowing the causes of some battle.

Mock parliaments are a great way to foster these skills. Our mock parliament is part of the Grade 11 social studies course. Students learn how to work together in political parties, and they gain **leadership and teamwork experience** while researching current issues, writing bills and creating questions for question period. They learn about each other — sometimes surprising things — as long-time friends occasionally end up on opposite ends of the political spectrum.

Just Remember to Start Small!

Mock parliaments suit schools of many different sizes and circumstances. One class of 25 students could do one, though two classes or more work better. If you start small with one or two classes and gradually expand, you will find that things proceed smoothly and run themselves.

Don't just throw students into the debate, however. There are a few things to do first:

- Teach students the fundamentals of Canadian politics and government functions: federalism, the structure of Parliament, the roles of legislators and the Cabinet, the Constitution, the political spectrum, Canada's major political parties and the way laws are passed.
- Have students complete a survey of their political beliefs to help them choose which political party to join.
- Hold elections for party leaders, and then set the parties loose to develop a platform and write bills (this will take several periods). Hold a mini mock parliament as a trial run.

At the beginning of the week before the real session takes place, hold party conventions. Each party signs up members, elects the party leadership (i.e. house leader and whip), and selects Cabinet ministers or critics.

The rest of the week is devoted to caucus meetings. Parties use these sessions to fill out the party platform, write the speech from the throne (give copies to all parties so they can develop criticisms of it), finalize bills and develop arguments to support their bills and oppose those of the other parties.

Order in the House

Here are a few tips to help you plan a mock parliament in your school:

- Find a room big enough to accommodate all participants that you can reserve for an entire week (or however long your mock parliament takes).
- Use desks or simply chairs for benches, if possible giving frontbenchers desks and backbenchers chairs.
- Make sure to have a raised speaker's platform and chair, and a good public address system with two or three microphones for the floor and one for the speaker.
- Using a slightly extended lunch hour each day for the mock parliament allows enough time for government business without completely rearranging the students' (and teachers'!) schedules.
- The speaker is a key player in the proceedings and should be an adult who's familiar with parliamentary procedure, but not one of the teachers involved in organizing the event.
- Each party, starting with the government, should present two bills for first reading and there should be enough time to finish the second reading of the government's first bill.
- Daily procedure should include a meeting of party leaders and advisors, distribution of orders of the day set by party leaders and distribution of bills to students.

Finally, make sure to develop a detailed schedule before the mock parliament begins. And don't forget to start small and have fun!

Equal Access

"All children may have an equal right to learning and knowledge, but different children have different learning styles and different abilities. These differences may make it difficult for students to gain access to learning from traditional classrooms and lessons."

"I attribute much of the fact that I have gone so far so fast to Mr. Marland. Instead of abandoning me..., he spent extra time with me after or before school to help me overcome my problems."

Former student with Attention Deficit Disorder now completing commercial pilot's licence

Ken Marland
Buena Vista Elementary School
Saskatoon, Saskatchewan

Ken Marland's teaching extends well beyond his classroom. He founded a summer camp and developed a swimming program for handicapped children. He has also been involved in several stewardship initiatives, including a public education campaign against pouring chemicals down storm sewers and a project to save the prairie crocus from home gardeners.

to Learning

My educational philosophy is best expressed as an image: the Tree of Knowledge with an unbroken circle, representing children, around it. **I believe that all children should have equal access to the Tree of Knowledge.** If lessons are based on actual or vicarious experiences — such as drama, reconstructions or experiments — as well as text, then all students have an equal opportunity to learn.

In my classroom, **I focus on keeping learning accessible to all my students.** I use a variety of media (song, dance, art, manipulation, text, experience and experimentation) and promote the development of a wide range of learning skills. I use unit themes of study to bring it all together.

The Bats in the Class project was one such unit theme that offered plenty of experiential, activity-based learning for my Grade 2 class.

Late in the winter, a young bat was found flying around the halls of the local community centre. It had come out of hibernation early, and was in danger of starving or freezing to death. I was called to catch it. Once I had it in a cage, I took it back to the classroom. A few days later, the mother of one of my students called to say there was a bat in her living room. **So now I had two bats and a classroom full of interested, curious children.**

How Bats Became a Project

- I realized that a lot of different kinds of learning would be required if we were to keep these bats alive until we could release them in the spring. The children were excited. This wasn't an abstract study unit on bats. These were real bats with real, immediate consequences.

  For example, I found out that the bats shouldn't weigh less than 15 grams. If they did, it meant they were starving. So we had to weigh them every day. Since the bats didn't gain or lose weight in whole gram increments, the students had to learn about decimals (much earlier than the curriculum required). They also had to do the math necessary to figure out and plot on a graph how much weight each bat had gained or lost. **This simple exercise offered a number of different learning activities for the children** — reading the scale, writing down the numbers, calculating the daily differences, finding the correct coordinates on the graph and marking the new results on the graph.

- The bat project inspired a lot of language arts work. For example, a group of people concerned about public health hazards wanted us to get rid of the bats. (In fact, health concerns were very carefully monitored while the bats were with us and the children never handled the bats.) So the students started a public information campaign. They published two community newspapers and many posters. We studied attitudes towards bats in other cultures; people in China have very positive attitudes towards bats compared to those of Europeans.

- Most of the evaluation during the bat project was done orally. I did give written tests, but then I cross-checked the test results with an oral exam.

- **And everyone in the class learned. The students met all the expectations of the curriculum**, even the students who weren't good readers. I remember one little boy who had never shown much interest in school or learning up to that point. One day he proudly walked into the classroom with a huge smile on his face. He had persuaded his mother to take him by bus downtown to the main library, where he found and took out two books about bats!

What do we do with these

It is much easier to grasp the potential information technology has for changing our lives than it is to actually start using them. Everywhere they are used, it has taken a few years to translate the promise into everyday practice.

Education is no different and teachers are now faced with the challenge of figuring out how to integrate the new machine on the desk into their teaching practice. The vast amount of literature now available on the subject can make the issue more complicated. Much of this material talks about vague ideals rather than practical applications. Other times, materials are closely tied to particular theories of education that may not fit into everyone's teaching practices.

computers?

In the meantime, the computer sits on the desk, or in the box in the corner, waiting for someone to figure out what to do with it. The answer to this challenge is, not surprisingly, coming not from "experts" but from teachers themselves. Everyday, individual teachers are figuring out ways to use new technology and sharing it with others who are building further on those lessons. In this section are a number of teachers who have come up with strategies for integrating technology in the classroom that work.

How can I get students to use technology to work together? **Stephen MacKinnon** has developed a project-based approach that allows students to create materials for publication on the Internet.

How can I create real learning resources on the Internet? **Patrick Wells** has established virtual field trips where students can cover the basic material and prepare for the real thing.

How can I use technology in the arts where creativity is essential? **George Brassovan**, **Allan Mahnic** and **Mary Lou Sisely** have combined computers, 24 electronic keyboards and traditional band instruments to create a true multimedia resource centre for the school's music curriculum.

Teaching in Cyberspace

"On-line collaborative work is not easy. Individualism and creativity push and pull the project."

Stephen MacKinnon
Athens District High School
Athens, Ontario

To anyone still harbouring fears that technology is leading us to a world where individuals don't count for much, Stephen MacKinnon's work at Athens District High School may be a revelation. His success in adapting the Internet to project-based learning is in no small way the result of his sensitivity to human individuality, awareness and creative potential.

"Project-based learning is at the core of my approach to teaching. Projects put education into meaningful contexts and teach students how to work collaboratively as a team. It's precisely the differences that provide the creative spark."

Teaching in cyberspace is an important new development and will be even more so in the future, requiring teachers to acquire many new communication skills and adopt new teaching methods. The interactive nature of computer technology provides an ideal environment for the collaborative learning that projects involve.

This is not difficult to do in a school like ours, where I find students as a whole eager to learn. The young people I work with have a strong work ethic, and many are willing to go beyond what is usually expected in a classroom.

I realized early on that successful project-based learning absolutely requires that students be allowed to make significant decisions about classroom procedures and priorities. This is the most fundamental advice I can give to a teacher: let the students take control. If you want to have a Web project that the kids will feel is special — something that they and other teenagers care about — let them conceive and develop it.

Advantages of student-led project-based learning:

- students are highly motivated
- all learning is relevant
- the project can be presented to others and shared
- students learn more and learn faster.

Advantages of using the Internet for project-based learning:

- the Web is a great way to present the project to millions of people
- students have access to vast resources and people beyond the classroom
- the Web permits dialogue between the audience and the authors.

The real proof, however, is in the product. Have a look at some of the things my students have done at **http://www.ucdsb.on.ca/athens/index.htm**. Here you will find several award-winning sites, including Mission 2000, a Web game based on the Year 2000 problem, The Peace Adventure, Delta Maple Syrup Festival and Canadian Aid for Chernobyl.

Tackling an Actual Project

- The first step is to decide on an idea. I encourage you to look around your community for Web projects. I think teachers and students ought to be prepared to put something back into the Web, something meaningful that we can contribute to this vast sea of information.
  - Once the project team has agreed on an idea, everyone must start with some good old-fashioned research: gathering information, reading, interviewing people, asking questions.
  - I strongly encourage teachers to make the project part of something bigger, such as the AT&T Virtual Classroom Contest (**http://www.att.virtualclassroom.org**), the International Schools CyberFair (**http://www.gsn.org/cf**) or SchoolNet's GrassRoots (**http://www.schoolnet.ca/ grassroots**).
- Planning is very important. **Project team members must develop a vision of the site.** They should develop a detailed site plan, thinking constantly about how the visitor will navigate through the site. We have always built some interactivity into our sites to give visitors something to do — a quiz, survey or game.

  As the work progresses, **it is important to stay organized**. Keep the site plan up to date, and keep a list of files and their status. Keep work logs and hold progress meetings regularly.

  At the outset, you should plan on the project taking about twice as long as you expect. Every time you think it will be finished tomorrow, something comes up: another bug, new information, a new idea for improvement. The team will need to push for completion. At the final stage, my students work a lot of extra hours putting the finishing touches on the site.
  - The important point is to get it up on the Web. **The students get a tremendous sense of satisfaction when they see their work on the Internet.**
- The evaluation of the project is also important. CyberFair offers a comprehensive rubric for evaluating Web projects using peer review by other students who have created Web sites. **As a teacher, you should remember to evaluate the process of the project as well as the product.**

Destination: Virtually Anywhere

"Students find field trips exciting and usually have many questions about what they are observing. There is a dilemma, however, if an instructor wishes to maximize time on site: the excitement of the trip may cloud the true purpose of the visit."

Patrick Wells
Bishops College
St. John's, Newfoundland

Patrick Wells has been fascinated by the ocean since he was a young boy in Nova Scotia. Later as a research assistant and lab demonstrator, he developed an equal enjoyment of teaching. Now the science department head at Bishops College, he combines both interests with an imaginative use of computer technology to create relevant and exciting science labs, assignments and project-based activities for his students.

"With the virtual field trip, students can proceed at their own pace through the material and investigate in detail. The virtual field trip can be used an infinite number of times, yet is easily modified and so never outdated."

Field trips are an interesting variation on project-based learning, where **travelling, exploring and collecting and analyzing data become the project.**

The goal of a **virtual field trip** is to optimize trip time by establishing the major goals of the trip before it takes place. In addition, the Web pages provide a survey of organisms that students might encounter. The trip is designed to guide students through the material in a logical manner and introduces topics in appropriate locations.

You can see an example of a virtual field trip at **http://redbaron.bishops.ntc.nf.ca/wells/fieldtrp/field.htm**. It prepares students for an actual field trip to an intertidal zone. The material covered is an important part of the survey of plants and animals, ecology curriculum and fisheries elective for Level III Biology.

There are as many possible field trips as there are courses in a school, and the outline of the **intertidal zone field trip** could be adapted to any of them.

Highlights

- introduction and discussion of central concepts — biomes, tides, ecological niches and ecological zonation
- characteristics of several marine biomes, each illustrated with a photograph (this introductory page demonstrates the most important lesson objective: that physical conditions cause an organism's habitat selection)
- a lab activity page on the collection and analysis of data.

The lab activity page saves time at the seashore, since the students know what they are looking for before going out. I've created a set of questions the students must answer while travelling through the virtual field trip. This encourages them to thoroughly examine the information on the Web pages and helps them understand how it fits together. The real field trip then confirms the lesson with practical experience. Students work quickly and efficiently, and are often able to do much of the identification and analysis work independently.

The virtual field trip creates an air of anticipation among the students. In addition, the site teaches those unable to attend the actual field trip, and acts as a reference source for students afterwards.

Getting Your Feet Wet

◀ The virtual field trip didn't start with a spark of inspiration; it just grew naturally from some simple beginnings.

It began with an introductory Web page created to prepare students for the field trip. When out on the shore, the learning resource teachers and I took some pictures and added them to the page for illustration.

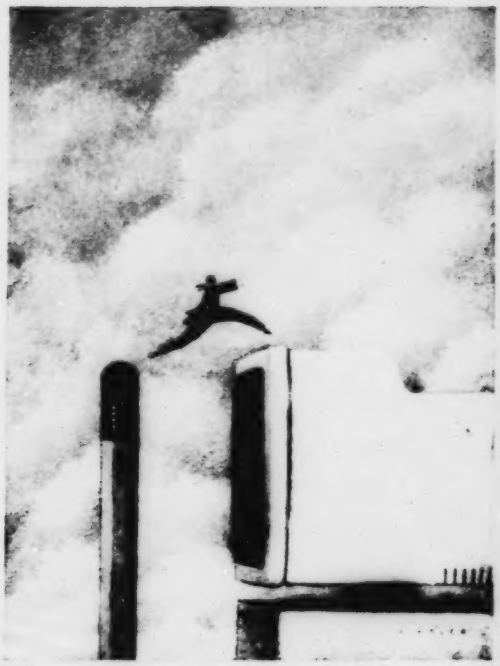
The photos show the intertidal zones or close-up pictures of seaweed, algae or creatures. These became the images on the Web site. Captions for the photos turned into explanations of the field trip findings. The rest was just a matter of planning the site layout and writing a narrative for the lesson and a series of questions to lead the students through the material. **The site grew very gradually into what it is today as I realized the appeal it had for the students.**

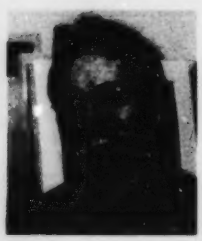
◀ Though I designed this project to meet specific course needs, many teachers should be able to develop presentations for their students based on their own local environment. I believe it's important to use as much of the natural environment in your immediate area as possible when teaching biology, ecology or environmental awareness. I think it's a shame not to know and appreciate your own environment. I also believe that **when you know and appreciate your own environment, you'll want to take care of it better.**

◀ **Anyone can use our site** to learn about our corner of the world and our seashore, one of Newfoundland's most beautiful physical features. I hope to expand my contacts to other schools from all parts of the Atlantic provinces and North America, adding examples of other intertidal zones and their inhabitants.

Harnessing Technology for the Arts

"We see the computer as a glorified pencil. In an art class, students use it to draw a picture; in a music class, to write a piece of music. The fact that we do not have 'pencil' classes says a great deal about what is important."





George Brasovan, Allan Molnar, Mary Lou Sicoly
Dante Alighieri Academy
Toronto, Ontario

George Brasovan, Allan Molnar and Mary Lou Sicoly each contribute to a highly effective collaboration. George is head of the music department at Dante Alighieri, Allan teaches music at both Dante and the adjacent elementary school, Regina Mundi, and Mary Lou is an itinerant music and drama teacher serving several separate schools in Toronto.

"Their enthusiasm has been contagious, and one cannot help but feel that this is just the beginning of future directions for the blending of technology and the arts in education."

Education colleague

When the three of us first met in 1991, it seemed entirely possible that music classes would fall victim to budget cuts and restructuring. At the same time, the push to introduce computer technology in education was placing even more demands on core curriculum teachers.

To address these issues, we set about developing a new curriculum that **integrates the arts and technology** and provides opportunities for students to **collaborate on projects involving a variety of subjects.**

Using computers and keyboards to speed up the acquisition of fundamental skills **motivates students and rewards them promptly with a sense of their own progress.** We have taken advantage of this when integrating technology and music education across all areas of the curriculum. For example, students entering Grade 9 get the chance to participate in the music program even if they have never taken a music course before or cannot read music.

These students have the option of taking a daily half-semester course that puts them to work on the keyboards immediately. **At first, all work silently with headsets on**, their keyboards hooked up to a central soundboard that lets the teacher listen in on individual progress. They tap out the song's rhythm, coordinating both hands as they work through more and more complicated exercises. **In a matter of hours, three or four students are working together as a band.** Within a couple of weeks, they are playing simplified versions of rock songs.

At the end of Grade 9, students who show musical talent are recommended for performance classes, while other students continue to participate in multimedia projects in other ways. A sufficient number of students entering Grade 10 continues to pursue music to support several bands and vocal groups. In the last three years, in fact, **the number of students enrolled in the Dante Alighieri music program has tripled.**

Project Discovery extends technology and the arts into the broader curriculum in a 10-week unit involving six elementary schools. At the end of the project, the students create and stage manage a multimedia production celebrating what they have learned for their parents and school community. *Celebrating Mother Earth*, for example, involved 200 students from junior kindergarten through Grade 8 performing original songs, interpretative dance, poems and stories.

- **Set priorities.** What is your objective for the class? After making a lesson plan, if you find you can teach the class with or without a computer, then you have relegated the machine to its appropriate role as servant.
- **Select a platform**. The software you want to use should be your main consideration in determining the computer platform. We use Macintosh for three reasons. First, Macs are the platform of choice for music and multimedia. Second, they are easy to use. Third, we can run both the Mac operating system and Windows.
- **Select software applications**. There are many software applications available, so buyer beware! The majority of retail outlets seem disconnected from education. The needs of students and teachers seem rarely to be considered in software development.
- **Build basic skills**. We have developed a series of units to teach students how to "hold and sharpen the pencil." The students are introduced to many of the skills they need to work on multimedia projects.
- **Make connections**. This is the most important step in the process. We created a generic template that the students use for organizing information. The students are instructed to go the library or the Internet to research their chosen topic. They use a real (rather than metaphoric) pencil to design their project on paper before coming to the computer lab to complete it.

To find out more about the team's award-winning work, check out **http://www.percussionstudio.com** and **http://www.justkiddingband.com**.

"Self-directed learners: Easy to say, hard to do.

Watch a baby learning to crawl and you will see an incredible hunger for learning and an astounding level of persistence. Some people keep that drive and hunger for learning for their entire lives. Others do not. How is it that schools so often fail to keep the drive to learn alive?

Good teachers try to deal with this by continually experimenting with teaching methods, keeping what works and discarding what doesn't. But there are deeper issues as well that involve questioning the whole purpose and overall goals of education. Many teachers wonder about these things and a few have taken the time, and associated risks, to try new approaches that begin with the children themselves. Approaches that help students discover how much they can do.

It is a tricky project and it is still unclear how easily this approach fits into traditional practices — some believe it can be added on to current practices while others advocate a radical overhaul of the entire education system. Whatever the conclusion, some very valuable lessons are being learned along the way. The teachers in this section send a series of reports from different fronts.

How can I make sure students of varying abilities are not cut off from the magical world of literature? **James Moore** has used a variety of approaches to allow students to use their current strengths to help them develop literary interests and skills.

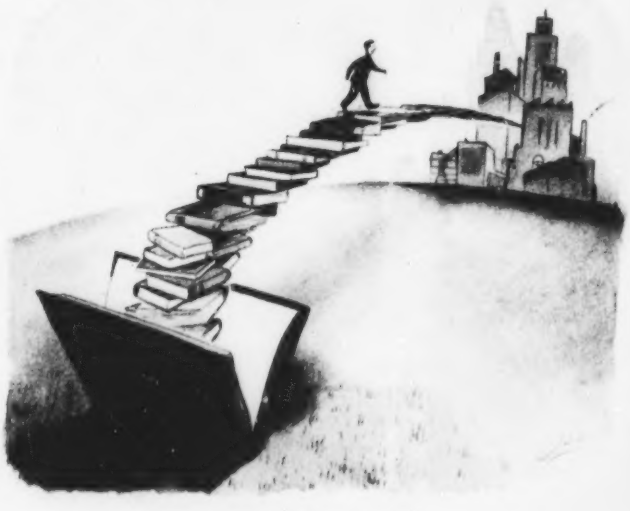
How can I help young students whose brains are full of widely divergent ideas and enthusiasms grow into thinking, reasoning individuals? **Cheryl Andrews** uses a "concept web" to help children see how the things that interest them now connect to a whole world of interesting ideas. The web also helps them find their way around this new world.

How am I supposed to teach students how to use technology that changes so fast that I spend as much time learning myself as the students do? **Peter Sol**'s students rely on him as a consultant but they take the lead in electronic publishing projects. In the process, they learn how to solve problems in a changing environment.

How can I get kids writing on their own to find their own research? **Patricia Clifford** and **Sharon Friesen** have thought a lot about the answer to this question... and about questions in general.

"If Andrew Lloyd Webber was in your class, would you ask him to write a 750-word essay on some element of theme or characterization?"

Expanding Literary Horizons



"As an English teacher, it is my duty to encourage students to explore not only their intellect, but also their senses and emotions. In doing this, I broaden the field of vision, so to speak, by integrating subjects and including disciplines other than the strictly literary, such as music or painting."

James Moore
Bishops College
St. John's, Newfoundland

With an enrolment of 700 students in three grades, Bishops College is a small community, James Moore says, where students have a good shot at making their mark and not getting lost in the crowd. Jim sees himself as a guide showing the way. His particular gift lies in his ability to open portals to insight for his students.

There are many creative ways to meet **students' needs.** If students display an aptitude in an area other than literary, teachers can empower them to develop their strengths while still enabling them to meet course requirements. At Bishops, we do this in a first-year literature course by building on Howard Gardner's concept of **multiple intelligences.** (Gardner has described the characteristics of individuals who have strengths in a particular intelligence in eight categories, such as verbal-linguistic and logical-mathematical.)

This course is intended for all students entering high school who lack a strong background in reading and writing. The class includes some students who will fast-track to university as well as others who are 19 and have never read a novel. **The course is a challenge to the teacher** — one tries strategy after strategy.

One thing that does work is the multiple intelligences assignment. Students first read Cassie Brown's novel *Death on the Ice: the Great Newfoundland Sealing Disaster of 1914.* **Then I ask them to choose a "vehicle" for expressing what they feel and think about the novel.** The good writers write: essays, poems, newspaper articles. Those with computer skills create multimedia presentations. Several might form a group and debate some aspect of the seal hunt. Musicians write themes and lyrics, artists paint or sketch, and sculptors sculpt. Others create posters for a proposed film, design and present a display of sealing artifacts or collaborate on writing a dramatic script.

As you may imagine, students are far more receptive to this assignment than if I had asked them to just read the book and take a quiz on it. **High attendance and a high pass rate (98 percent) in my classes tells me that students are motivated.** Moreover, I keep their interest and reward their diligence by having a show of all the projects and inviting guests, including other classes, teachers and parents.

Bringing it All Together

Capitalizing on cross-curricular sharing and subject integration is something I promote in all my courses. Here are a few examples that others can adapt to their purposes.

◀ Teach them to say what they think...

Knowledge by itself is of little use to students if they don't know how to communicate ideas to others. I think teachers should always be looking for integration opportunities, but we should never lose sight of the need to teach students to think critically, organize information effectively and communicate it well.

...and defend what they say

Students' ideas have value, either as a valid conclusion or as a discussion point. As a teacher, you must supply students with the confidence and opportunity to offer any interpretation they have with appropriate textual reference, logic and creativity. With this model, **defending their work becomes a strong academic exercise.**

◀ Encourage achievement

By developing communication skills you help students achieve. Many of my students challenge the Advanced Placement English Literature and Composition exams each year with great success. They are also regular winners of local, provincial, national and international competitions in public speaking and creative writing.

◀ Build partnerships

- Members of my Advanced Writing class have worked with students associated with the Bishops College Art Gallery. I took my students there one afternoon (you could go to a local gallery if your school doesn't have one), then asked them to choose one work of art and write about it.
- Partnerships and mentoring arrangements with university students expose high school students to a rich and diversified source of scholarly endeavour.
- I have arranged a sponsorship from Nortel for an annual essay and public speaking contest, for which students draw upon many subjects for topics and supportive knowledge.

A Web of Learning

"Children need to be active learners, not passive recipients of knowledge. They need to make connections. They need to see the whole picture as well as how the pieces fit together."

"The 'concept web' is central to the project approach. This wall chart of interconnecting words and ideas guides the project, tracks the children's investigation and shows the connections among ideas."

Cheryl Andrews
Central Elementary School
Brooks, Alberta

Cheryl Andrews began her teaching career in 1971 and taught music and English as a second language before moving to classroom teaching 15 years ago. She continues to upgrade her skills with professional development courses, among them a one-week intensive training program at the University of Illinois called "Engaging Children's Minds: The Project Approach."

I've learned a lot in 28 years of teaching, **most of it from my students.** I've come to see my role as helping children become lifelong learners. **I encourage children to ask questions, seek answers and solve problems.**

I use the project approach to bring these principles together. I do six classroom projects a year — three science and three social studies — following a six-step process (see right). Each project lasts for six to eight weeks and occupies the better part of each day. I spend the first 90 minutes on core topics such as math and spelling. I've used this fully integrated approach with students in grades 2 and 3, but I believe it could work in any elementary grade.

Using a project approach implies student-led activities and teacher guidance rather than teacher-directed learning. A supportive administration allows you to be flexible with timetabling, to do without textbooks, and to use the large amounts of library time and resources that are essential.

Patience, energy and good humour are critical. It takes children time to adapt to learning this way, and you must be patient. When they are involved in a project, they can be very excited. You need enough energy to keep up with them. Maintaining a sense of humour will help you overcome the occasional hurdles that are common to any busy classroom.

The project approach produces results. In 1997, all my students wrote the Grade 3 provincial achievement tests and more than 90 percent achieved the acceptable level. The project approach is also enormously rewarding. **It is truly marvellous to see young children's self-esteem grow as they set and meet realistic and meaningful goals.** The children realize they are teachers as well as learners and what they have to say is important. I know that I have made a difference in their learning for their whole lives.

The Six-step Project Program

- First, the children form groups for a **brainstorming** session and record as many words as they can think of relating to the topic. I accept all suggestions and write everything down on a class chart. Brainstorming establishes connections between how much the children already know and what they don't know, or would like to know.
  - To create a **concept web**, I write the name of the project in the centre of a large sheet of paper. Then, on lines radiating from the centre like spokes, we write some of the concepts suggested by this title. We use the students' brainstorming lists to fill in the concept web and to suggest areas of further research. We also examine the curriculum objectives and decide where they fit into the concept web at this stage.
  - Inspired by the concept web, the children formulate **questions** about what else they'd like to know about the topic.
- The **research** step takes the most time (three or more weeks) as the children read books, explore the Internet, look at maps and pursue a variety of information sources. Research skills — the ability to collect, assess and compile information — are invaluable to learning.
  - Representing the learning in a new form, which requires in-depth understanding of the topic, is critical. To ensure that the whole class learns what each individual is learning, we **share** information every two or three days. The children teach the topic, gaining confidence in communication and public speaking and practice in organizing their thoughts and ideas, and are increasingly excited about learning.
- Each project is based on the provincial science or social studies curriculum and is **evaluated** according to provincial standards. Reading and writing skills are critical components evaluated throughout the course of the project. I assess the children's progress frequently and offer guidance when and where they need it.

Students are Doin' it for Themselves

"Teachers of computer and technology-related courses face an insolvable dilemma. The industry is evolving so quickly that it is impossible to keep up and still maintain teacher-as-expert status."

Peter Sol
Alpha Secondary School
Burnaby, British Columbia

Peter Sol is an exciting, innovative educator with experience teaching drama, adult education, accounting and business, and expertise in marketing, data processing, computer science, information technology and network management. He leads the way in integrating new technology into the curriculum and contributes to the professional development of his fellow teachers.

"If you discard the teacher-as-expert model and focus on learning with your students, you gain many advantages. It's cheaper because there's no course material to buy; it's more fun because you can tailor projects to suit students' abilities; and it's more interesting for you and your students."

I like the expression "Lead, follow or **get out of the way!"** In every project, I do a bit of all three. I arrange class projects so students need to learn and teach each other in order to solve the built-in challenges and complications.

Acme Acres Books Inc. is a good example. On the face of it, it's a desktop publishing unit in a Grade 11 data processing course. I turn it into a book publishing project to **give the students a sense of accomplishment by letting them participate in a real-life production.**

It starts with an apparently simple proposal. The students are to visit a nearby Grade 1 class in the next week to read children's stories. "OK, what's so hard about that?" they wonder. I tell them that they're going to write the stories themselves using a Grade 1 word list. "OK," they think, "not so simple, but we can still handle this."

When they come back from reading their stories to the Grade 1 class, there is another surprise for them. "I forgot to mention.... Now we're going to put all the stories together into a book." Suddenly the students have to think beyond their individual work towards a collaborative effort.

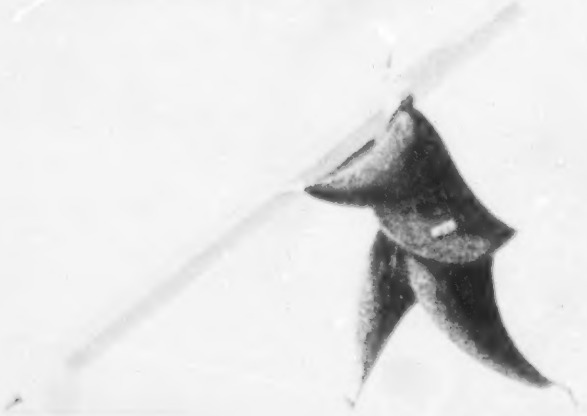
After some discussion and a few suggestions from their consultant (me), the class elects an editorial team. **This team is now in charge.** When the stories are finished, the editorial team realizes that there's still more work to do. The stories need to be edited and corrected, kept to a similar length, and set in the same font and layout style. The team makes these decisions quite easily and delegates different jobs to various people. All of the work is done in groups. The students share the learning and the work and are assessed as a group. **They learn to choose their groups wisely, and to be trustworthy and responsible themselves so that they're desirable team members.**

The most important thing that happens when you abandon the teacher-as-expert system is that the students learn that they have to do the work themselves. They don't learn anything if the teacher does more work than they do. Realizing this begins the **transformation of a young person from a student into a lifelong learner.**

Looking at the Results

- New books, movies or plays are reviewed when they are first released, and student productions should be too. Authors or actors have a very clear idea of the standards by which they'll be judged. **Students have the same determination to do an excellent job, and they deserve to be aware of the criteria by which they'll be judged.**
- Before any project begins, each student reviews the objectives and grading criteria. For example, when students are designing their first Web page, the minimum requirements are worth 10 marks:
  - a text box
  - a link to a linked list
  - a thumbnail graphic linked to a larger graphic
  - an animated GIF.

  These earn eight marks. The students earn an additional two marks for what I call **the razzle-dazzle factor** — the artistic merit and design an employer is looking for in an employee's work. The students then choose the mark they want to achieve and plan how they'll meet their goal. **They then sign a contract to that effect.**
- Before they even begin to work, the students know what they need to work hardest on, and have a way to determine the quality of their work and learning when they're finished. They have a good sense of when to ask for help, too. **Sometimes I lead, sometimes I follow, but mostly I just stay out of their way, and let them surprise me.**



Asking the Right

"We feel s[illegible] do in the classroom only make sense while fundamentally reforming the education system. The current system was created in the 19th century to meet the needs of a society changing from agrarian to industrial. That system no longer makes sense as the world moves into an information age."

Patricia Clifford and **Sharon Friesen**
Banded Peak School
Bragg Creek, Alberta

Patricia Clifford and Sharon Friesen have been teaching together for nine years. They have taught grades one to eight, as well as graduate and undergraduate courses in education. They established, most recently, the Galileo Educational Network (**http://www.galileo.org**), a not-for-profit organization dedicated to supporting systemic change in education through technology integration.

"For five years, I just did paperwork and learned from textbooks. Now we get to have some say about what we learn, how we learn it and how we show what we have learned."

Student

Questions

One way we are changing our school **system is through projects.** Our classes immerse themselves in a theme for weeks at a time, and their work is proudly posted on the Internet. The questions that students ask are what launch us on a project. Below, inspired by an entry in the guest book for our Web site, we have created a fictional dialogue with a Grade 7 teacher who was interested in how you inspire students to come up with good questions.

On Starting a Long Journey

Name: **Mary Smith**

Web site: **http://www.rockyview.ab.ca/bpeak**

Comments: I was looking for some information on the Middle Ages and came to your site. In Virginia, we have only a short section on the Middle Ages in our book. The huge project your Grade 2 kids did on the Middle Ages gave me lots of useful information, and inspired me to try to emulate it. How do you get kids to think like that?

Dear Mary:

Your question goes to the heart of why we think education has to change. We know our students do think in surprising ways. Far too often, schools don't encourage kids to want to think well, turning them instead into consumers of facts. We want them to be creative producers of new knowledge.

In order to get this kind of work from students, you have to think big. Young children love to ask big questions about life. They want to know, "Where are the women in all these knight stories?" or "Why did the Middle Ages end?" We always start projects with really big questions like these, ones that form the basis of months of study across many subjects.

Good Question!

Here's what we look for in good thinking questions:

- Good questions are so compelling that people have raised them in many different ways. For example, the question "What is light?" has scientific, mathematical, aesthetic, literary and spiritual dimensions. That's why a good project has to cut across so many subjects at once.
- When we tackle a great question, we explore the connection between our personal experience of the world and the experiences we all share across time and space. In exploring essential questions together, kids are able to find expression for their own strongest gifts and interests at the same time as they are able to establish a sense of community with others.
- A fantastic question allows us to explore what knowledge is, how it came to be, and how it has changed through history. Have you ever wondered about how people learned to count?
- Good questions live at the boundary of the known and the unknown. They come from people's attempts, throughout human history, to learn more about the world(s) we live in. Kids come to learn both that humans have figured out an awful lot about the world and that there are still genuine mysteries about even the most ordinary things such as gravity and dirt.
- Great questions are embedded in ideals of freedom, strength and possibility that permit people to come-to-know without becoming trapped in ideas that are oppressive or no longer useful.
- Good questions come from the imagination. People can know only a limited amount about the world through direct experience. It is questions that spark the imagination that permit young and old to journey together into unknown realms.

And does it work? You bet it does, as we're sure you've noticed on the extensive medieval section of the Banded Peak Web site (**http://www.rockyview.ab.ca/medieval.html**). It features everything from information on knights and castles to a conversation between Joan of Arc and Eleanor of Aquitaine that our Grade 2 students wrote. The work our students did on another project — retelling *The Odyssey* in pictures — were also a great success. In fact, a professor of Greek literature has used one of the illustrations on the cover of his new translation of *The Odyssey*.

How can I create life for my students?

Most adults looking back on their lives can recall a challenge that paved the way for future successes. It was a task that initially seemed daunting, and maybe even impossible, that they managed to master to their great personal satisfaction and pride. At the same time, they made contacts, acquired skills and were left with a sense of self-confidence.

These experiences only loom larger as we get older because we realize how much of what we later achieved as adults was made possible by the personal developments that went with these experiences. Even the things that did not work out as well as they might became the basis of future successes.

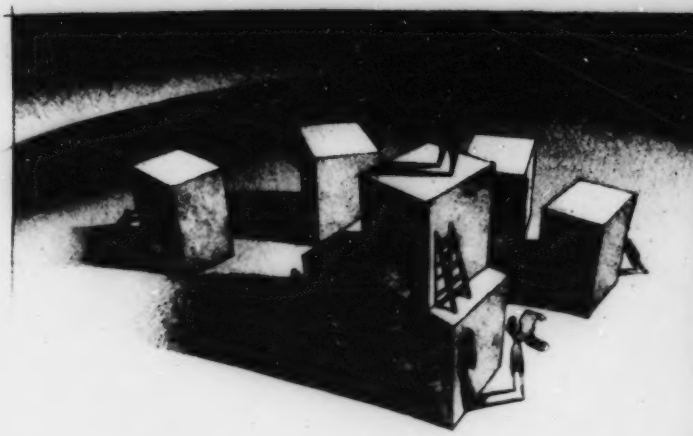
changing opportunities

But not every big challenge works out that way. Students can just as easily learn to give up on themselves and others. Recognizing this, teachers are always on the lookout for new projects to throw at students and for ways to make existing projects work better. In this section we get a new challenge and a very inclusive approach to an old standard.

How can I connect my subject area, which students may or may not have anything to do with after they graduate, with some larger lessons they will be able to use no matter what they do in life? [redacted]'s students direct a play, a major challenge that consolidates everything they have learned about theatre, and prepares them to work together with others in other fields as well.

How can I prevent cliques and other social barriers from keeping some students out of activities that could benefit them? [redacted] has taken an approach as inclusive as possible to school plays and had some very positive results on stage and off.

Bringing



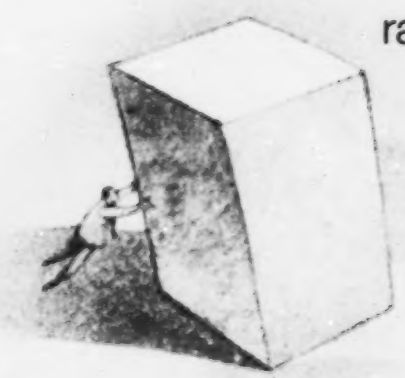
"The goal of our programs has never been to prepare a few students for singing, dancing or drama careers. The goal is to help all students develop their full potential and succeed as adults, whether as singers, actors, engineers, doctors, lawyers or teachers."

Tami Dowler-Coltman
Victoria School of Performing and Visual Arts
Edmonton, Alberta

For more than a decade, Tami Dowler-Coltman has played a major role revitalizing Victoria School. In 1985, it was Victoria Composite, a beleaguered inner-city school, falling apart and slated to close. Now, 1,800 students from Kindergarten to Grade 12 attend five distinct arts programs: the School of Music, the School of Dance, the Theatre School, the School of Art and Design, and the School of Video and Broadcast Studies. Tami was a key player in the development of the curriculum for these schools, considered among the best in Canada, and teaches secondary drama and theatre arts.

"Because of Tami's influence... this school does not simply offer instruction in various disciplines, but provides broad exposure to a whole range of ideas and skills. We're a renaissance school!"

Fellow teacher



Drama to Life

Life Lessons

The arts, with their potential for **illuminating all aspects of life, should be at the core of any young person's education.** The guiding principle of my work with the Theatre School is to help students understand that **their education is about them and how they relate to the world.** An excellent example of life lessons learned through the arts is a theatre course for student directors.

The process of directing involves using one's imagination, knowledge and experience, bringing the elements of a play to life, and engaging an audience's senses. It also requires acting, movement, improvisation, speech and stage design experience. An ideal approach to teaching these skills in a single high school course is to **have students actually direct a dramatic presentation**, making all the decisions from script selection to casting and rehearsals to directing the performance and preparing a critical analysis of it.

In 1998, my students directed 18 performances. Besides the school performances, two of our productions represented the school in the Zone 8 DramaFest, featuring productions from across Edmonton. One of these two plays then took part in the Alberta High School Drama Festival, which included 17 plays from schools across the province. **Nine of our students received awards, scholarships and congratulations** for their part in the production.

◀ The primary aim of the course is to teach lessons that have value in real life. A good example suggests itself early on, during the casting process. Some students have an easier time with this than others. However, all are intensely aware of the challenges of teamwork.

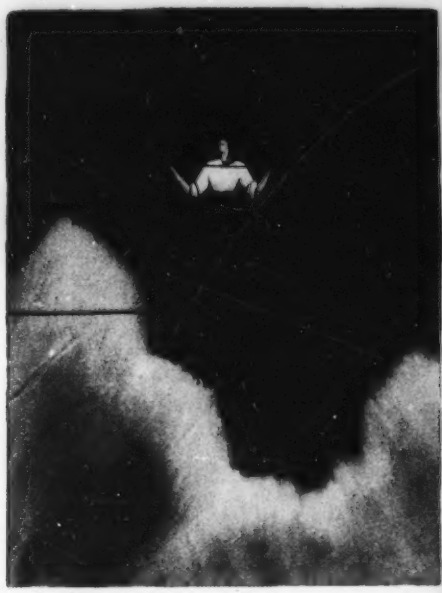
◀ Each director must make a list of the characters in his or her play, describing each one in detail. Then, we hold a general call for actors, who must audition for all 18 plays. Next, we hold call backs. Then, using their character lists, the directors propose ideal casts for their plays and the whole group discusses which actor will be in which play. The process of give and take is not without difficult moments, but by the end of it, **these student directors have experienced and demonstrated a spirit of generosity in developing their ensemble that would rival any diplomatic model.**

◀ Another example: in studying a play for the purpose of producing it, students flex mental muscles beyond what usually occurs in a classroom. Besides analyzing plots, characters and meaning, they must consider different interpretations, look for alternative sources, ask questions, resolve disagreements, make decisions, and pursue a unified course of action. All of this gives a student models for succeeding in life pursuits, and nurtures creativity, self-discipline, teamwork and competency in solving problems and managing resources.

◀ **Most of all, our 20 to 25 students gain confidence**, which comes with learning to apply a director's fundamental tools to bring their vision to reality. Student leaders hone their interpersonal skills to make the whole process a positive one for all members of their theatrical ensemble.

◀ The immense task of pulling all these elements together and shaping and refining them into a vision of artistic unity becomes the ultimate challenge for the young directors. The course is a major commitment from start to finish. As one student summed it up: "Directing is stressful. It's scary. It requires huge amounts of time and energy. And it requires you to make sacrifices. Directing is also worth making the sacrifices for. It's fun and exciting, and the feeling you have sitting in the audience watching the play is indescribable..."

A Place in the



"Teachers hold a double-edged sword. We can build or destroy a student with a single word. A student's peers hold the same power. Acceptance or condemnation by a clique can have a tremendous influence on a young person."

"Jim Myles gives young people a sense of personal worth that is often lacking in our educational system. His enthusiasm is contagious, his dedication inspiring and his rapport amazing."

Fellow teacher

James Myles
Fredericton High School
Fredericton, New Brunswick

A teacher who has come to school every day for 31 years with enthusiasm, James Myles is head of the 27-member science department at Canada's largest high school. Dedicated as much to the personal development of his students as he is to covering the curriculum, he starts every day with the question, "What can I do differently or better today?"

Spotlight

On with the Show

Whether teaching biology in the classroom (which is what I do during school hours), leading a field trip or directing on the stage, my objective is to instil a sense of pride, success and confidence in every kid. When I began to direct musicals 17 years ago, the shows were the exclusive province of the Glee Club, a small group of music and drama students. **Now they are an inclusion opportunity.**

If students have been brave enough to show up for auditions, I won't turn them away. Even if they can't act, sing, or even walk across the stage without tripping, I find some way to include them. I solicit auditions too, usually from students recommended by a fellow teacher. These teachers have seen the **transformation in other students who have been given an opportunity to perform and succeed**, and they know which students need that boost or are too shy to come forward.

If I've spotted hidden talent in a previous production, I'll encourage that student to take a lead role. One young woman had no self-confidence and stayed at the back of the chorus line. I noticed, however, that she did have a beautiful singing voice, so the next year I encouraged her to audition for a lead role. She is now at the University of Toronto studying opera.

But what about the kid who can't sing or dance? In *Oklahoma*, we dressed him in American Gothic style and had him stand on stage with a pitchfork, scowling the whole time. We called him Waldo, and it became the trademark of the play — "Where's Waldo?" We hid him in obscure places in every scene. The audience loved it and gave him his own standing ovation. For *Joseph and the Amazing Technicolor Dreamcoat*, we made one student into a mummy by wrapping him in gauze and sent him across the stage during every scene with a placard featuring a political comment or anecdote. **He became quite a star.**

Every student deserves a moment at centre stage. It takes teamwork, time and money to accomplish this.

◄ Teamwork

A successful production requires a whole team of volunteers:

- A professional dancer from our community acts as choreographer.
- A former student designs our sets.
- A group of parents creates costumes for the supporting cast and chorus. We rent the lead costumes from a costume house in Toronto.
- A conductor and our 30-piece orchestra handle the score.
- A parent organizes publicity.
- A local business covers the printing costs for the program, tickets and a poster for each cast member.

◄ Time

The production takes six months. Lead auditions start in October. From early December to late March, I hold individual or small-group rehearsals every day. We choreograph each movement and give students plenty of time to learn their lines. The entire cast rehearses together four times a week, including Friday evenings and Saturdays (which parents love; it keeps the kids off the streets). This may seem an excessively long schedule but I've found it necessary, given the number of people involved. Everything comes together about two weeks before the show.

◄ Money

We moved from the high school's auditorium to the downtown theatre five years ago because the audience was simply growing too large. Some people — not just parents — come to all five performances. We raise approximately $60 000 from ticket sales, enough to cover our costs.

You also need **patience and energy.** I'm not dealing with a crowd of 200 kids. I'm dealing with 200 individuals. It takes patience to give them each the attention they deserve.

Get in Touch with Us!

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The 1998–99 Certificate of Achievement Recipients

Each of the 1998–99 Certificate of Achievement recipients are listed here by province, along with a short biography and a description of some of their award-winning teaching ideas.

If you are interested in contacting one of these outstanding teachers, please call our hotline (**1-800-575-9200**) or E-mail us (**pmawards@ic.gc.ca**).

Newfoundland

Alphonsus Whiffen, Brother Rice High School, St. John's
Secondary technology, chemistry, co-operative education (computer studies)

Brother Whiffen's positive learning environment benefits both students and fellow teachers. It features 95 linked computers, two computer labs with Internet access and two advanced chemistry courses with a self-paced, computer-based curriculum. His students have also profited from connections he has built with local employers, which have resulted in a database of collaborative employment initiatives among school and community partners, student placements with local industry, and an information centre that provides access to career and labour resources on the Web and to specialized software.

Nova Scotia

Sylvia Gunnery, Park View Education Centre, Bridgewater
Secondary English, program support

Ms. Gunnery uses her experience as a successful author of books for young adults to help students learn to write effectively and manage their lives. Students of all types — from aspiring writers to aspiring business people — learn language, critical-thinking and social skills and gain self-confidence in her classes. She has passed on the experience she has gained through *Just Write! Ten Practical Workshops for Successful Student Writing* and seven novels that help young adults deal with the many changes they go through during high school.

Charles McMillan, Truro Junior High School, Truro
Science

Mr. McMillan uses hands-on, minds-on activities and group work to teach students to think critically and act logically. His students learn they can exceed their own expectations by working together, by using technology and through special activities, such as think tanks and "brain sweatshops." Mr. McMillan is also active in curriculum development; the province chose him to field test new science curriculum and to review software used to teach science. He has also been invited to provincial and international science association conferences to share his expertise.

Québec

Joan Conrod, Pontiac Protestant High School, Shawville
English and drama

Teaching students to speak and write clearly is Mrs. Conrod's primary objective. She guides students through activities such as public speaking, teaching vocabulary lessons, storytelling, debating and dramatizing novel sections. These activities inspire students to appreciate the English language and to develop and improve their listening and speaking skills. Her students regularly participate and excel in public-speaking and essay-writing contests. In 1997, one of her students was the first from Québec in 77 years to win a prestigious essay contest.

Michel Desbiens, Jean Marmette, Johann Pichette, Colette Roussel,
École secondaire de Rochebelle, Sainte-Foy

English, French, history, physics

These four teachers created an interdisciplinary program for 200 students. The students use new technology to create imaginary villages from various points in Québec's history. They acquire methodical work habits, language skills and critical-thinking skills in the process. The teachers also created a researchers' association for students. To qualify for membership, a student must present an idea for a research project for approval, carry it out, present results and write up a report. The students respond eagerly to the projects, even though they require additional work and present additional challenges.

Liette Ménard-Demanche, École l'Avenir, L'Avenir
Elementary, all subjects

A visit to a professional recording studio gives Ms. Ménard-Demanche's students a chance to put their communication, music and technology skills to the test. This special activity is only one of many — including international projects conducted over the Internet and musical and theatre productions — that Ms. Ménard-Demanche uses to inspire and excite her students. Her skills with computers and their application to education have been widely recognized. She has given several seminars on these subjects, and her school board chose her to oversee the implementation of computers in six local schools.

Yves Potvin, École Leblanc, Laval
Elementary physical education

Mr. Potvin has never stopped inventing ways to motivate students and encourage them to take responsibility for developing and maintaining their bodies. He has them create and follow a schedule of activities and shows them how a good physical fitness regime can improve all aspects of their lives. Among other results, several students have won awards for combined success in athletic and academic pursuits, and Mr. Potvin has produced a Web site and book to share what he has learned with other teachers.

Sheva Strolovitch, Hebrew Academy, Côte St. Luc
Elementary language arts, mathematics

Responding to children is the key to Ms. Strolovitch's teaching. She created a program that successfully sensitizes children to the special needs of some of their peers. She treats teachers, parents, local organizations and students as a community of learners that she brings together with literature, films, writing experiences, discussions, interviews and dramatic presentations. The result is a learning environment that balances discipline and structure with nurturing and caring. Students acquire courtesy, independence and decision-making skills.

Gabrielle Tawfik, Trafalgar School for Girls, Montreal
Secondary math and science

Ms. Tawfik uses a wide variety of learning and assessment activities, such as labs, lectures, group work and simulations, to get girls excited about science. All her students — whether they learn very quickly or at a slow and steady pace — are encouraged to think and act as young scientists. She also helps design and review the curriculum by participating in curriculum committees, preparing provincial physics exams and helping review existing standards.

Charalambos Thomas, Centennial Regional High School, Greenfield Park
Moral and religious education, math, reading and computer science

Teaching a variety of subjects, ranging from moral and religious education to mathematics, reading and computer science, led Mr. Thomas to explore the role values play in education. The results include a CD-ROM resource for moral and religious education that Mr. Thomas created with the help of his students. The students located Web sites, developed artwork, did desktop publishing and created video clips. This work led to the launch of a Web page competition and allowed students to become computer experts.

Carol Adam, Lord Strathcona Public School, Kingston
Language, mathematics, science and technology, social studies, physical education, arts

Ms. Adam uses innovative projects, such as a study of levers based on a plowing match, to create an industrious workshop atmosphere in the classroom. Another project used a fundraising activity as the occasion to create the "Cheese Store." Students filled out order forms, estimated and tallied cheese weight and price, sorted cheese, restocked shelves, checked orders and delivered cheese to other classes. Ms. Adam also gives parents input into their children's education and uses alternative approaches to teaching to address different learning styles.

David Boyd, Appleby College, Oakville
Secondary English, writer's craft

Although he is an innovator who has successfully brought technology to the classroom, Mr. Boyd insists on a balanced approach centred on solid teaching. He believes that technology is not a substitute for a capable teacher using effective teaching methods. He focuses his efforts on promoting new methods of teaching and new ways of bringing creativity into the curriculum. A number of international publications have recognized his expertise. In addition, he is chairman of The Read In! Foundation, the world's largest on-line literacy telecommunications project with more than a quarter of a million participants in 16 countries.

William Costiniuk, Timmins High and Vocational School, Timmins
Social sciences

Mr. Costiniuk's students have won 11 regional law essay awards and a mock trial sponsored by the Canadian Bar Association, as well as several prizes in a stock market competition. They received a solid training in these areas through hands-on activities Mr. Costiniuk developed. These include The Expert Witness, a program that allows students to learn about forensic science. It requires students to research forensic science, determine which laws and charges apply to a hypothetical case, solve problems such as calculating blood alcohol levels and appear as expert witnesses in a mock court.

Sholom Eisenstat, **Tito Faria**, Don Mills Collegiate Institute, North York
Visual arts design, principles of design and computer graphics, co-op career exploration, computer studies and computer problem solving, communications technology and technology support

These teachers believe in taking chances, so they always strive to do things in new ways. One prime example is a multidisciplinary program that integrates visual arts and technology to focus on project-based and real-life activities. It produces experienced graphic artists and animators sought after by industry. This teaching team has also established partnerships with technology companies and helped introduce technology into other schools in the board.

Suzanne Fortin, École Notre-Dame-du-Rosaire, Blezard Valley
Elementary, all subjects

Ms. Fortin's students are developmentally challenged and are legally blind or deaf. Many require special supports, such as diapers or tube feeding. All are in wheelchairs. Thanks to Ms. Fortin's efforts, the students have facilities and special programs to help them learn and live their lives to their full potential. These include the Snoezelen Room, a specially equipped facility that gives deaf and blind children sensory experiences using fibre optics, bubble tubes, music, padded cushions, and fans and vibrations.

Rick Hay, Whitney Public School, Toronto
All subjects

Mr. Hay believes that a good education starts at the very beginning. He uses Grade 1 to foster children's love of learning and study habits for future grades. His students find out that learning happens everywhere and lasts a lifetime, through a variety of experiences inside and outside the classroom and the involvement of home and community. Mr. Hay has also initiated innovative environmental activities and organized a program to make school and staff computer literate. He publishes the school Web site, which contains a weekly newsletter, an outline of classroom activities, lists of homework assignments and individual Web pages.

Anne Hobbs, Waterdown District High School, Waterdown
TRY program, human relations, peer mediation

Some students need more than the standard curriculum offerings to succeed at school and Ms. Hobbs is there for them. For example, she created the TRY (Taking Responsibility for Yourself) program to give students extra help with interpersonal communications and personal development. The program also offers individualized, independent learning courses that can lead to a high school diploma. She also developed five new courses for area high schools and initiated a peer mediation program that later became a credit course in conflict resolution.

Louisa Howerow, Jeanne Sauvé French Immersion Public School, London
English

Ms. Howerow helps students connect to the world around them. She develops or seeks out opportunities for students to do this through writing, reading and speaking. Her students learn to see themselves as responsible, contributing members of society by participating in Remembrance Day, Black History Month, UNICEF and environmental awareness activities, among others. By the end of the school year, all students see their work read and appreciated outside the classroom. In 1997, the school won a regional award for highest pupil participation in a reading program.

Carolyn Humphrey, **Jo-Anne LaForty**, **Lucia Sharp**, O'Neill Collegiate and Vocational Institute, Oshawa
Science, biology, chemistry, physics, information literacy, English, library

These teachers focus on the needs of young women at risk of dropping out of senior science and math courses. They encourage these students to participate in courses and to become aware of the career opportunities a science background provides. The teachers also work closely with the private sector to provide opportunities for young women in science. Research has shown the teachers have progressed towards their goal of creating a climate of success in which young women are encouraged to pursue studies in science, math and computers in high school and beyond.

Donald Jones, Kenner Collegiate Vocational Institute, Peterborough
English, peer tutors, reading tutors

With the right program, most, if not all, students can learn to read. Thanks to Mr. Jones, that program now exists. The peer-tutoring program he created has turned things around for many students who struggled with reading, enabling them to go on to future academic success. He has successfully taken over classes with the worst attendance records and made them the best-attended classes in the school. His students have shown a huge improvement in marks for students previously at risk. During a three-year, unpaid leave, he worked with school boards across Canada to develop similar programs.

Peter Joong, Danforth Collegiate and Technical Institute, Toronto
Mathematics and computer science

Mr. Joong spearheaded several innovative programs that have made the school one of the top few for math and computer science in Toronto. These programs include a multimedia techniques and design course, a specialized math course for technical students in grades 11 and 12 and a fast-track math course that compresses the curricula for grades 9 through 11 into two years. He acts as a facilitator and director of learning for these programs by providing constructive feedback on students' efforts and suggestions for further investigation.

Charles Lamarche, École secondaire l'Héritage, Cornwall
French, language in media, communications technology

Mr. Lamarche encourages students to motivate themselves by ensuring they understand that a project simulates a real-life situation and that the finished product will get some publicity or exposure. His students have completed many media projects, including a Radio-Canada television show called *Flip Flop*, advertisements for major companies, radio programs and documentary videos. Through his "Le conte pour enfants" project, Grade 10 students work with elementary students to write children's stories and then publish them and record them on cassette.

Wendy Maxwell, The Bishop Strachan School, Toronto
Elementary French as a second language

Ms. Maxwell integrates French education with drama and literature. Children work co-operatively in small groups that are organized so the stronger students in the group help the weaker ones. The program is interactive, participatory and repetitive, giving students plenty of opportunity to use and practise the language. Ms. Maxwell's achievements also include a highly successful program of language teaching based on storytelling and drama that helps students think sequentially in a second language, builds a rich, contextualized vocabulary, and promotes oral language skills and written skills simultaneously. Ms. Maxwell's students frequently place first in public-speaking contests, locally and provincially.

Michael Milhausen, Sir Frederick Banting Secondary School, London
French and Spanish

Mr. Milhausen is the driving force behind the French immersion programs, particularly in curriculum development, at two secondary schools in London — Sir Frederick Banting and Sir Wilfrid Laurier. These programs help students acquire a second language by immersing them in the cultural milieu of the language, in the classroom and through educational travel and exchanges in Canada and abroad. He also initiated the practice of language immersion outdoor camping, subsequently included in Professor David Pratt's book, *Terrific Teaching: 100 Great Teachers Share Their Best Ideas*. He has received several awards for his work in immersion.

Frank Mustoe, University of Toronto Schools, Toronto
Secondary chemistry, physics, general science

Using simple to sophisticated technology, ranging from balloons and models to computer projections and spreadsheets for lab data entry, Mr. Mustoe provides a relevant and challenging learning environment that allows students to understand chemistry. He backs this up with a mentoring program that lasts well beyond graduation. His students are keen to participate and are top performers in competitions such as the Avogadro chemistry contest, the Chemical Institute of Canada contest and the Chemistry Olympiad.

Rodney Rychliski, **Katherine Vanderhorst**, Driftwood Park Public School, Kitchener
All subjects

These teachers ensure that each of their students develops the concepts, skills and attitudes they need to use the computer as an instructional and creative tool. They do this by making computers, video cameras and digital cameras everyday tools for students in the classroom and by creating a flexible learning environment. The students respond with inspiring, and occasionally award-winning, creations. A multimedia presentation on Olympic skaters created by two Grade 5 students — including original artwork, text, actor-based animation, claymation, virtual objects and Internet links — won an International Society for Technology in Education award.

Brian Taylor, Horizon Alternative Senior School, Toronto
Elementary mathematics, science, history, geography, computer studies

Motivation can only happen when students see a clear purpose for learning, says Mr. Taylor. He conveys purpose along with his teaching by using simulations with a game component that have specific goals and require students to learn a variety of facts and skills, including computer skills. Using these simulations gives his students opportunities to take charge, make decisions and feel successful.

Kendall Taylor, Thomas A. Stewart Secondary School, Peterborough
Geography

Inspiring students at all ability levels to seek the possibilities open to them is Mr. Taylor's goal. He does this by bringing a combination of humour, creativity and a sense of exploration to the classroom, and he uses computer technology and teaching methods that foster high-level thinking skills. Four of Mr. Kendall's students have placed first in the Royal Canadian Geographical Society's high school essay-writing contest, and two others have received honourable mention.

Elaine Vine, Vaughan Road Academy, Toronto
INTERACT program, Grade 11-OAC English, writer's craft

To fulfil their responsibilities to their students, teachers should, Ms. Vine believes, provide relevant, realistic curricula in a secure, respectful and comfortable environment. The INTERACT program is a good example of the way she lives up to this standard. Through her efforts, students with serious outside commitments, such as athletic or dance training, can schedule their academic classes in a flexible way. She maintains high standards and expectations for these students, and is able to make school interesting and challenging enough to compete with their first loves of sports, dance and drama.

Colin Williamson, Bridlewood Community Elementary School, Kanata
Music, mathematics, English

Mr. Williamson believes that some of the most effective learning takes place outside the traditional curriculum. As such, he feels his role as a music teacher should have a far-reaching impact on students. He believes that music is for all, not just a select few, and ensures students become accomplished musicians by the end of Grade 8. He also organizes and leads an annual three-day senior band trip during which students play at the Canada's Wonderland Music Festival and visit sites around southern Ontario. This trip is the highlight of two years of practice, fundraising and adherence to group expectations.

Manitoba

Spencer Duncanson, Sisler High School, Winnipeg
Choral music and dance

If you have a diverse group of students, you had better give them a variety of ways to communicate with one another, says Mr. Duncanson. Some of his efforts to broaden the range of student expression include a curriculum of jazz and ballet in partnership with the Royal Winnipeg Ballet School and a successful dance troupe for at-risk students. The dance troupe, Sisler's Most Wanted, won a silver ribbon in a competition five months after Mr. Duncanson established it, and the members have made significant personal and academic improvements since.

Hope Kideckel, Sisler High School, Winnipeg
Career education

Ms. Kideckel helps students direct their own education, make career plans and consider their goals. She introduced the career exploration program at Sisler, Manitoba's largest high school, changing the way students make connections between their school life and the "real" life awaiting them in the future. She has also established partnerships with universities and the private sector. In the past three years, more than 110 partners have signed on, enabling more than 1 000 students to participate in job shadowing or career internships.

Jim Mackay, Silver Heights Collegiate, Winnipeg
Concert and jazz bands

Silver Heights' secondary concert and jazz bands have become a way for students to strive for excellence and a source of pride, thanks to Mr. Mackay. Recognizing that music education goes beyond teaching notes and techniques, he teaches life skills and personal worth through music. As well as becoming excellent musicians, his students learn to value their special skills and to use them to support the entire group. Mr. Mackay has received a Band World Legion of Honour Award from the John Philip Sousa Foundation, which recognized him internationally as an outstanding band director.

Saskatchewan

Gloria Herauf, Yorkton Catholic School Division #86, Yorkton
Elementary music

Far from being a break from other subjects in the elementary school curriculum, Ms. Herauf's music classes feature high expectations and a stimulating and rewarding learning atmosphere. She developed and delivers a comprehensive music program that helps students learn basic structures of music with percussion and rhythm instruments, recorders and songs with hand movements. These classes challenge students while ensuring that music is enjoyable. Her program has prepared students for high school arts courses and spurred some on to careers in the arts.

Roger Morgan, Kincaid Central School, Kincaid
Secondary math, physics, computer science

Mr. Morgan trains students to develop self-discipline and monitor their own performance with adaptive assignments, which give them a choice of skill level and difficulty. These assignments accommodate various learners by presenting three levels of questions based on the same curriculum objectives. This system encourages personal responsibility in higher grades. Students in graduating classes have responded by bringing home an average of $9000 in scholarships and other awards annually over the last eight years.

William Kao, McNally High School, Edmonton
Mandarin Chinese

For Canadians, learning Mandarin Chinese is a serious challenge. Mr. Kao helps his students learn this difficult language and ensures that their success gives them new-found confidence when tackling all parts of the curriculum and life's other challenges. The excellent performance of his students speaks for itself: a 98 percent attendance rate (school average 91 percent), a passing rate of 96.5 percent (provincial standard 85 percent) and a class average of 6.54 out of 7 in International Baccalaureate exams (world average 5.86 out of 7). As well, 58 percent of students receive a grade of more than 80 percent (provincial standard 15 percent).

Margie MacDonell, École Rocky Elementary School, Rocky Mountain House
Language arts, health, art, physical education, counselling

Besides reading and writing, children also have to learn how to get along with others. Ms. MacDonell created the Peaceable School Community Project to help students and teachers eliminate emotional, verbal and physical violence, inappropriate behaviour, bullying and discrimination. The provincial department of education has recognized her program as a promising practice. Ms. MacDonell's students were also chosen to join a nation-wide rally in Toronto to honour Nelson Mandela.

Julie Matatko, Elizabeth School, Cold Lake
Elementary language arts and social studies

Ms. Matatko helps make learning enjoyable and rewarding for her students by creating a stable atmosphere for them. She is aware of the culture of the community and open to students' views, and gives students candid, constructive feedback. She also keeps parents informed of their children's successes as well as concerns or problems. Ms. Matatko played a key role in the Northland School Division's Performance Assessment Project, designed to improve student achievement, by helping develop evaluation criteria and guidelines for test administration and by testing students in language arts and mathematics.

Clarence Samuelson, John Maland High School, Devon
Instrumental music and general music

To make music interesting and fun for students, Mr. Samuelson incorporates computer technology and music camps, and has advanced students teach beginners. He also offers competition opportunities as incentives to excel. This dedication to excellence has resulted in provincial, national and international music festival awards. Mr. Samuelson encourages students to excel in other areas as well; the top music students are typically on the honour roll or are top athletes, too.

Diane Seguin Hare, St. Mary's High School, Calgary
French and French language arts

Ms. Seguin Hare has been a vigorous supporter of French as a second language programs in Alberta. She initiated a tutorial system whereby French immersion students tutor beginning students and developed learning guides for both levels of students. She also formed a partnership with an elementary school through which Grade 12 students choose a language-related activity and teach it to Grade 1 students. As coordinator of the Extended French Department, she promotes the value of learning a second language, and has developed French as a second language programs and materials for the Alberta Ministry of Education.

Robyn Shewchuk, J. Percy Page Composite High School, Edmonton
Performing arts, dance and drama

Mrs. Shewchuk encourages learning by nurturing creativity, focusing on goals, and being willing to employ a variety of resources and strategies. She works to establish a positive learning climate, to set clear and realistic expectations of students, and to reinforce them. She also provided the direction, expertise and inspiration that helped the school win five of the last six awards for performance at the high school DramaFest in Red Deer. Her students have also repeatedly won awards for outstanding actor, student director, sound production, set design and stage crew, despite the fact that the school lacks a theatre facility.

British Columbia

John Buckley, Princess Margaret Junior Secondary School, Penticton
Physical education and student leadership

A student leadership course, a five-point marking system and an expanded range of physical education are some of the initiatives that Mr. Buckley developed to significantly improve student achievement and performance. He backs these up with an approach to teaching that ensures that students of all abilities can thoroughly enjoy their physical education classes. He also created guidelines indicating the scope and sequence of skills that should be emphasized in each grade. This gives the department a high degree of consistency, no matter who is teaching which unit.

Shain Chisholm, Burnsview Junior Secondary School, Delta
French immersion, humanities

Mr. Chisholm has developed programs to offer students a wide variety of engaging lessons encouraging the use of French. As a result, enrolment in French immersion is rising, which is not the case at other schools in the region. His students learn in a workshop setting that unites the raw materials of local, national and global concerns, problems and issues with curriculum outcomes. This helps students develop critical and creative-thinking skills and allows them to learn with a historical and global perspective.

Elisabeth Dawson, Sir Winston Churchill Secondary School, Vancouver
Geography and social studies

Ms. Dawson uses field studies to integrate physical and human geography through analysis rather than description. This approach promotes students' interest by having them study their own community and motivates them by emphasizing the practical. She also prepares students in the International Baccalaureate Programme (IBP) for stiff competition with others in 80 countries. These students consistently perform well on IBP exams. For example, between 1989 and 1998, the average grade was a 5 (the scale ranges from 1 to 7). In May 1998, seven students — a third of Ms. Dawson's class — received a 6, putting them in the top eight percent of IBP students around the world.

Antonio De Araujo, St. Patrick Regional Secondary School, Vancouver
English and choral music

The choral program at St. Patrick has grown in three years to six choirs with 50 percent of the student body participating under Mr. De Araujo's direction. The program has enabled students to affirm their talents and has given the extremely diverse school population a common enthusiasm. The senior choir won the gold medal in a prestigious American contest in 1998, placing it in the top 10 percent of high school choirs in North America. As a result of this medal, the choir was the first Canadian group invited to the National Invitational High School Choral Festival in Washington, D.C.

Richard Edwardson, **Dawn Jetté**, Walnut Road Elementary School, W. E. Kinvig Elementary School, Surrey
All subjects

These teachers have created a program that convinces students that the study of the ancient world, including human origins, is not irrelevant to their daily lives. Each unit is designed to be a "mini-adventure" and calls for a high degree of student involvement, self-discipline, responsibility, creativity and decision making. For example, one unit of the Odyssey program these teachers developed consists of a simulated archeological dig. This has attracted considerable interest, including a film the teachers produced in collaboration with the National Film Board of Canada in the late 1980s.

Greg Murray, Eagle View Elementary School, Port Hardy
All subjects

Mr. Murray blends information, problem solving and social skills into meaningful activity to teach life skills to his students. For example, he brought the "Odyssey of the Mind" program to the school and champions it as an alternative to science fairs. The program encourages students to use creativity and ingenuity to solve problems, and emphasizes co-operation and respect. Under this program, teams of five to seven students solve design problems, such as building a load-bearing structure to balance weights, or small cars to break stationary and moving balloons.

Gerald Pennells, Brentwood College School, Mill Bay
Secondary biology and general science

Mr. Pennells puts himself in his students' place when designing lesson plans and instruction methods or adapting the curriculum. As a result, he emphasizes capturing and maintaining students' enthusiasm. One of the keys to doing so is to ensure that students have good equipment for scientific study. Mr. Pennells has also given students the opportunity to do advanced lab studies by establishing an education partnership with the University of Victoria and the Bamfield Marine Station, a facility operated by five universities. His students have responded well: they consistently rank high in provincial examinations, Advanced Placement results and national biology competitions.

Karen Shoemaker, Buckingham Elementary School, Burnaby
All subjects

Ms. Shoemaker helps her students reach their full potential as members of society by moulding the learning environment to students' needs. She builds on students' emotional health by having them take on new challenges, such as the Remembrance Day Poster Contest, poetry- and essay-writing competitions, scarecrow-building competitions and Christmas tree-decorating contests. The latter two are the result of partnerships Ms. Shoemaker has forged with local businesses. She has also become a key figure in bringing anti-bullying programs into the school and promoting them through class activities and school-wide presentations.

Dale Stevenson, Rick Hansen Secondary School, Abbotsford
Physics, calculus, science

Real problem solving is what happens when people leave the classroom and make their way in the real world, says Mr. Stevenson. With this in mind, he avoids a monolithic approach to learning and adapts the curriculum to free students from rigid timelines, enabling them to develop skills relevant to the real world. In addition, he brings together seemingly unrelated areas — such as humanities, science, history, math, astronomy and geology — for challenging assignments. The result has been highly successful Advanced Placement physics and calculus programs.

Peter Stigings, Magee Secondary School, Vancouver
Concert band and jazz ensembles

Mr. Stigings strives for excellence, encourages persistence and aspiration, and develops confidence in his students. He gives band members special responsibilities: overseeing extracurricular rehearsals, looking after the music library, and acting as assistant musical directors. In addition, his students work as peer tutors and counsellors for younger students in the program and for elementary music students. The net effect of all this has been a successful and popular music program with 30 percent of students enrolled.

Susan Woelke, Stu"ate Lelum Secondary School, Chemainus Native College, Ladysmith
English, history, art, career and personal planning

Ms. Woelke seeks to convince students who have not succeeded in the education system that they can learn. She has successfully developed a number of practical exercises to encourage reluctant First Nations' students to embrace learning. These include "Do-Use-Teach," during which insecure students are encouraged to practise and use their skills and to teach them to other students. "Catch the Chalk" makes students the teachers. Graduates of her classes have gone on to become teachers through the Native Teachers Education Program. Others are enrolled at the University of British Columbia or community colleges, or in business courses. Still others are employed in a variety of office jobs.

About

The Prime Minister's Awards for Teaching Excellence

Now that you've read about these outstanding teachers, think about nominating a great educator near you!

The Prime Minister's Awards for Teaching Excellence recognize the efforts of outstanding teachers in all disciplines who provide students with the tools to become good citizens, to develop and grow as individuals, and to contribute to Canada's growth, prosperity and well-being.

The education stakeholders from across Canada who make up the national and regional selection committees look for evidence that teachers have achieved outstanding results with students, inspired them to learn and continue learning, and equipped them with the skills and attitudes they need to succeed in our changing society and knowledge-based economy. Specifically, they recognize nominees who have excelled in the following areas:

- student interest and participation
- student achievement and performance
- student skills development
- teacher commitment and leadership
- exemplary teaching practices.

Teachers are eligible for two awards: the Certificate of Excellence and the Certificate of Achievement. All recipients receive a certificate and pin, along with a letter from the Prime Minister. Recipients' schools receive cash awards to be used for educational purposes, such as professional development or equipment, and a certificate recognizing their support and their contribution to the teachers' achievement.

Fifteen Certificate of Excellence recipients travel to Ottawa for four days of tours, best practices sessions and a ceremony with the Prime Minister at which they receive their award certificate. Cabinet ministers or members of Parliament are invited to participate in local events to honour Certificate of Achievement recipients in their communities.

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